Entegris

GATEKEEPER® OPTICS GAS PURIFIERS

Cost-effective, environmentally friendly gas purification

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Overview

Available for point-of-use, area and bulk applications, GateKeeper® optics gas purifiers are designed for use with CDA (air) and remove NOx, H_2S, H_2O, CO_2, NH_3, amines, acid gases and alcohols to sub-ppb (part-per-billion) levels; SO_2, NMHCs and siloxanes to sub-ppt (part-per-trillion) levels.

Features and Benefits

Cost-effective

- Regenerable for low cost of ownership
- Gas purification improves process consistency, increases product yields and lengthens tool life
- Transforms low-purity gas into UHP grade, reducing process costs

Environmentally Friendly

- Regenerable – eliminates disposal issues

Process Protection

- Consistently delivers ultrapure gas
- Guards against bulk gas purifier breakthrough, impurity spikes from liquid storage tanks, cylinder changeouts and unexpected contaminants in the process
- Does not release hydrocarbons that may contaminate the process
- Low pressure drop across purifiers
- CE certified to the Pressure Equipment Directive (PED) and manufactured in an ISO 9001:2000 facility
- Backed by global service and support staff

Safe and Simple to Use

- Easy to install
- Uses ambient temperature purification technology – no power or heat required
- No moving parts

General Specifications

Materials of construction:	316L stainless steel, electropolished 10 Ra	
Gases purified:	CDA (Clean Dry Air)	
Outlet purity:	<1 ppb H_2S, H_2O, CO_2, amines, acid gases and alcohols; <100 ppt NOx, <10 ppt NH_3; <1 ppt nonmethane hydrocarbons, siloxanes, SO_2	
Outlet particle filtration:	70KF to 10MH	0.003 µm 316L stainless steel
	200M	20 µm 316L stainless steel
Media:	Inorganic	
Maximum differential pressure:	1379 kPa (200 PSID)	
Minimum operating pressure:	101 kPa (14.7 PSIA)	
Leak rating:	70KF to 10M	1×10^{-9} atm – cc/sec.
	200M	4×10^{-9} atm – cc/sec.
Maximum inlet challenge of contaminant to maintain product efficiency:	10 ppm (part-per-million)	
Lifetime:	One year at nominal flow rate with 1 ppm inlet challenge of moisture	
Maximum operating temperature:	65°C (149°F)	

Operating Specifications

Model	Maximum Flow Rate (SLPM)	Nominal Flow Rate (SLPM)	Maximum Operating Pressure Purifier Only[1]	Maximum Operating Pressure Purifier with Options[2]	Pressure Drop[3]
70KF	3	2.3	19995 kPa (2900 PSIG)	1724 kPa (250 PSIG)	4.8 kPa (0.7 PSID)
300KF	50	13.8	4826 kPa (700 PSIG)	1724 kPa (250 PSIG)	34.5 kPa (5 PSID)
500KF	60	27	4826 kPa (700 PSIG)	1724 kPa (250 PSIG)	48.3 kPa (7 PSID)
700KF	120	36	4826 kPa (700 PSIG)	1724 kPa (250 PSIG)	48.3 kPa (7 PSID)
2500KH	500	135	1724 kPa (250 PSIG)	1724 kPa (250 PSIG)	27.6 kPa (4 PSID)
10MH	1000 1000	480 480	1724 kPa (250 PSIG) 1724 kPa (250 PSIG)	1724 kPa (250 PSIG) 1724 kPa (250 PSIG)	1/2″– 62 kPa (9 PSID) 3/4″– 36.5 kPa (5.3 PSID)
200MZ[4, 5]	20000	3500	1379 kPa (200 PSIG)	1379 kPa (200 PSIG)	27.6 kPa (4 PSID)
Drop-in Replacements for Waferpure® Purifiers					
75KF (Mini-XL)	5	2.3	19995 kPa (2900 PSIG)	1724 kPa (250 PSIG)	10.3 kPa (1.5 PSIG)
300KF (Megaline)	50	13.8	4826 kPa (700 PSIG)	1724 kPa (250 PSIG)	34.5 kPa (5 PSIG)

[1] Do not use under vacuum. Minimum pressure should be 1 atm (14.7 PSIA). [2] Pressure limited by standard valves, higher pressures available; please consult your local sales representative. [3] Pressure drop at maximum flow rate and 620 kPa (90 PSIG) inlet pressure. For a detailed pressure drop curve and other pressures or flows, please consult your local sales representative or visit www.entegris.com. [4] This product uses "Z" media; the removal specifications are identical to the "O" media. [5] Model only available for countries that recognize ASTM US standards; not currently CE certified; contact Entegris if needed for EU application. **All product information is subject to change without notice.**

Facility Specifications

Model	Fitting Sizes	Configuration (inlet/outlet)	Approximate Weight	Length	Diameter	Fitting Offset
70KF	1/4″ face seal	male/male	0.4 kg (0.88 lb)	12.7 cm (5″)	3.8 cm (1.5″)	Centered
300KF	1/4″ face seal	male/male	1.8 kg (4 lb)	20.8 cm (8.2″)	5.1 cm (2″)	Centered
500KF	1/4″ face seal	male/male	1.6 kg (3.5 lb)	20.2 cm (7.94″)	7.6 cm (3″)	Centered
700KF	1/4″ face seal	male/male	1.6 kg (3.5 lb)	25.4 cm (10″)	7.6 cm (3″)	Centered
2500KH	1/4″ face seal 1/2″ face seal	male/male male/male	9.5 kg (20.9 lb) 9.5 kg (20.9 lb)	43.9 cm (17.3″) 44.7 cm (17.6″)	10.2 cm (4″) 10.2 cm (4″)	Centered Centered
10MH	1/2″ face seal 3/4″ face seal	female/male female/female	27 kg (59.5 lb) 34.5 kg (76 lb)	97.4 cm (38.36″) 143.3 cm (56.4″)	15.2 cm (6″) 15.2 cm (6″)	Centered Centered
200MZ	2″ tube stub	—	454 kg (1000 lb)	165.9 cm (65.3″)[6]	111.8 cm (44″)[7]	81.8 cm (32.2″)[8]
Drop-in Replacements for Waferpure® Purifiers						
75KF (Mini-XL)	1/4″ face seal	male/male	0.4 kg (0.88 lb)	12.7 cm (5″)	3.8 cm (1.5″)	0.97 cm (0.38″)
300KF (Megaline)	1/4″ face seal	male/male	1.8 kg (4 lb)	20.8 cm (8.2″)	5.1 cm (2″)	Centered

[6] Height [7] Depth [8] Width

Options

Model	Isolation Valves	GC 300 Manifold	3 Valve Bypass Manifold	5 Valve Bypass Manifold	4 Valve Changeover Manifold	8 Valve Changeover Manifold	Moisture Breakthrough Indicator[9]
70KF	Yes		Yes	Yes			Yes
300KF	Yes	Yes					Yes
500KF	Yes		Yes	Yes			Yes
700KF	Yes						Yes
2500KH	Yes		Yes	Yes	Yes	Yes	Yes
10MH	included		Yes		Yes		Yes
200MZ	included						
Drop-in Replacements for Waferpure® Purifiers							
75KF (Mini-XL)	Yes		Yes	Yes			Yes
300KF (Megaline)	Yes	Yes					Yes

[9] External to purifier for models 70KF – 700KF.

Ordering Information

GateKeeper® Gas Purifiers

Part Number

CE* XXXXX X XX XXX R

Model
70K
300K
500K
700K
2500K
10M

Filter
F = 0.003 µm
H = 0.003 µm (low pressure drop)

Gas Series
C = Corrosive
H = Hydrogen
I = Inert
N = Nonreactive
O = Optics
SK = Hydride
LK = Carbon monoxide

Fitting
4R = ¼″ face seal male-to-male
8R = ½″ face seal male-to-male
8Y = ½″ face seal female-to-male
12W = ¾″ face seal female-to-female

Additional Processing
R = Regeneration

Example: **CE2500KHO8RR**
Model = 2500K
Filter = 0.003 µm (low pressure drop)
Gas series = Optics
Fitting = ½″ face seal male-to-male
Additional processing = Regeneration

For dimensional drawings, pressure drop curves and more, refer to the user manual or go to *www.entegris.com*, click on Products and Services, and click on the link to Gas Microcontamination. An online "Product Wizard" is available to help you specify the ideal purifier for your application or you can contact our Gas Purification Specialists directly at 1-858-452-0124 or 1-800-511-9761 toll free in the U.S.

All products with the exception of the 200M model meet CE Directive 97/23/EC requirements.

CE

Contact Customer Service to learn about our regeneration service.

** For all models except 200M. To order 200M: SS200MZ*

Note: Not all models are available with all gas series, fittings, or additional processing; contact your salesperson for more information.

Note: If you have an older Mykrolis® Micro or Mini-XL purifier, specify drop-in replacement 300K or 75K.

For More Information

Please call your Regional Customer Service Center today to learn what Entegris can do for you. Visit *www.entegris.com* and select "Regional Customer Service Centers" for the center nearest you.

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